IN THE CLAIMS:

Cancel claims 1-25 without prejudice or disclaimer.

Please add new claims 26-46 as shown below in the LISTING OF CLAIMS:

Claims 1-25 (canceled)

Claim 26 (new): An apparatus comprising:

an external shell, and

an internal shell, the internal shell being mounted on the external shell; there being a space between the internal shell and the external shell, and a vacuum being produced in the space produced between the internal shell and the external shell,

wherein the apparatus comprises a sealable vessel for processing materials especially for carrying out pre-hydrolysis of a biomass or for carrying out digestion of a mineral, in that the internal shell is a coating and in that implosion is prevented through the vacuum maintained between the coating and the external shell so as to allow the internal coating and the external shell to be properly juxtaposed.

Claim 27 (new): The apparatus according to claim 26, wherein the external shell and the internal coating are made of a structural material and corrosion resistant material, respectively.

Claim 28 (new): The apparatus according to claim 26, wherein the external shell and internal coating are made of microbonded carbon steel and refractory metal, the latter including its alloys, respectively.

Claim 29 (new): The apparatus according to claim 26, wherein the apparatus is used as a thermo-chemical reactor in pre-hydrolysing biomass.

Claim 30 (new): The apparatus according to claim 26, wherein the apparatus is used as a reactor in a process of mineral digestion.

Claim 31 (new): The apparatus according to claims 26, wherein the apparatus is used as a batch reactor.

Claim 32 (new): The apparatus according to claim 26, wherein the external shell and the internal coating are mounted by simple juxtaposition, free from welding in the different materials.

Claim 33 (new): The apparatus according to claim 26, wherein the external shell and the internal coating are welded together and protection rings or plates of the same metal as the coating are placed on the welding of the parts and edges.

Claim 34 (new): The apparatus according to claim 26, further comprising at least one device for detecting and monitoring the vacuum between the external shell and the internal coating.

Claim 35 (new): The apparatus according to claim 34, wherein the at least one detection and monitoring device detects vacuum microleakage, so as to enable one to detect microcracks in the internal coating.

Claim 36 (new): The apparatus according to claim 34, wherein the at least one detection and monitoring device detects microcracks in a continuous way.

Claim 37 (new): The apparatus according to claim 34, wherein the at least one detection and monitoring device detects microcracks in a scheduled intermittent manner.

Claim 38 (new): The apparatus according to claim 34, wherein helium gas is introduced into the reactor for detecting microcracks in the internal coating.

Claim 39 (new): The apparatus according to claim 34, wherein microleakage detectors are coupled to the vacuum line.

Claim 40 (new): The apparatus according to claim 26, further comprising a mechanism for oscillating rotational movement.

Claim 41 (new): The apparatus according to claim 40, wherein the mechanism for oscillating rotational movement enables the apparatus to oscillate around its main axis.

Claim 42 (new): The apparatus according 26, further comprising a helical feeder for feeding and compacting a product to be processed in the apparatus.

Claim 43 (new): The apparatus according to claim 42, wherein the helical feeder can be uncoupled after the apparatus has been filled.

Claim 44 (new): The apparatus according to claim 26, further comprising a large openable cover for discharging processed solid material.

Claim 45 (new): The apparatus according to claim 26, further comprising a tilting mechanism for permitting the discharge of processed solid material.

Claim 46 (new): The apparatus according to claim 26, further comprising a transporting cart in order to permit apparatus transport to where it can be used.